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Subject: Los Padres Chapter Sierra Club response to EPA air quality  
permit for BHP Billiton Cabrillo Port

To:

Mr. Joe Lapka (AIR-3)  
EPA Region 9  
75 Hawthorne Street  
San Francisco, CA 94105-3901

From:

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Joe,

Please see attachment for my comments. Thanks for listening.  
Mike S.



LNG response to EPA air permit (2 August 06).doc

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Joe Lapka (AIR-3)  
Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105-3901

RE: Clean Air Act Permit for BHP Billiton Cabrillo Port

Dear Mr. Lapka:

As the Air Quality Chair of the Executive Committee of the Los Padres Chapter of the Sierra Club, I am submitting the following written response to EPA Region 9's request for public comment regarding the proposed Clean Air Act Permit for BHP Billiton Cabrillo Port.

***BHP Billiton is being allowed to play by different rules***

In a letter dated 5 April 2004, Mr. Gerardo C. Rios, Chief of the Permits Office of the Air Division of the EPA, Region 9, indicated to Mr. Steve Meheen, Project Manager of Cabrillo Port, that the Cabrillo project's projected emissions would be subject to compliance with Ventura County Air Pollution Control District's (VCAPCD) Rule 26, commonly known as "New Source Review" (NSR). It also indicated that the offset requirements of the VCAPCD NSR would apply.

Specifically, Mr. Rios indicated in this letter that "as a general matter, application of 'local law or regulation,' including environmental law, to deepwater ports is appropriate." Mr. Rios then excerpted a Senate Report (93-1217, 2 October 1974) that states that subsection 1518(b): "*. . . prevents the Deepwater Port Act from relieving, exempting or immunizing any person from requirements imposed by State or local law or regulation. In addition, States are not precluded from imposing more stringent environmental or safety regulations*" [italics mine].

Mr. Rios went on to say that "we have made the preliminary determination that (in addition to any other applicable state laws), the Ventura District regulations are the relevant laws of the nearest adjacent coastal state." And he added: "Application of the Ventura District local rules is appropriate because the Ventura District is the District whose seaward boundaries, if extended beyond 3 miles, would encompass the proposed deepwater port."

Mr. Rios concluded “that the offset requirements of the Ventura District NSR Rule 26 would apply” and asked Mr. Meheen to provide “additional information [that] must satisfy the requirements of Ventura District Rule 26 for offsetting emissions from this proposed facility.”

Not coincidentally, the October 2004 Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) for the Cabrillo Port project claimed that there would be *no* Class I air quality impacts, because at that time no one disputed that the project would have to comply with the air quality laws of Ventura and Los Angeles County, respectively, because it was assumed that any air quality impacts could simply be mitigated by offsets such as mitigation measures or emission reduction credits (ERCs). (Interestingly, the 2004 Draft EIS/EIR did not provide any documentation supporting this assumption.)

In reality, of course, BHP Billiton would *never* have been able to comply with the offset requirements of Ventura or Los Angeles County alone, much less the offset requirements of *both* counties. Why? Because there simply aren’t enough ERCs available to offset a project of this magnitude. So what did Billiton do? It apparently convinced the EPA, the Ventura County Air Pollution Control District (VCAPCD) and the South Coast Air Quality Management District (SCAQMD) that it should be *allowed to play by different rules*. Because the Revised DEIR of March 2006 asserts that Cabrillo Port is no longer subject to the same rules that apply to every other industrial facility located in Ventura County.

Now, in the Revised DEIR, Billiton acknowledges that there *will* be certain unavoidable Class I impacts! Yet, like the 2004 Draft EIS/EIR, the Revised DEIR still failed to address how those impacts would be mitigated or offset, because now, according to the EPA, BHP Billiton doesn’t really have to do so. Why? *Because now it’s only required to comply with the emissions requirements mandated for the Channel Islands (!), which the EPA (incorrectly) characterizes as an “attainment” area*. In an apparent attempt to relieve BHP Billiton of the inconvenience of *having to actually comply with the air emission laws of our county*, the EPA discovered a convenient loophole in Ventura County Rule 26, New Source Review. This loophole, exemption A.2. under Rule 26.3 – NEW SOURCE REVIEW – EXEMPTIONS, was inserted into Rule 26 as the result of a request by the U.S. Navy when the 1994 Air Quality Management Plan was being created for Ventura County. Specifically, 26.3.A.2. exempted the U.S. Navy facility at San Nicholas Island (67 miles off the coast) from using Best Available Control Technology (BACT) on its generators that produce electricity for a small military research facility four times as far from our coastline as Cabrillo Port and it also exempted the Ranger residence and lighthouse on Anacapa Island, which is part of the Channel Islands National Park. But to apply this exemption to Cabrillo, which is bigger than any other industrial or manufacturing facility in this county, is outrageous, absurd and downright dishonest. And this leads to our next concern.

## ***The Revised DEIR incorrectly characterizes the Channel Islands as a Federal “attainment” area***

In the Revised DEIR, the Channel Islands are characterized as an “unclassifiable/attainment” area, which sounds like they’re in attainment, sort of. But what this characterization actually means is that there is insufficient data or no data to indicate whether an area is “attainment” or “nonattainment.” Of course, the air quality in the Channel Islands area might very well be slightly better than the air quality in Ventura County. But the Channel Islands are, as you know, a National Park, so we Americans would like to *keep* the air quality of the Channel Islands National Park as pristine as possible. The air quality around the Channel Islands is already degraded by the daily ship traffic in the Santa Barbara Channel and by numerous oil drilling platforms off the coast between Santa Barbara and Oxnard. It hardly seems appropriate to locate another major industrial facility of the magnitude of Cabrillo Port near a National Park. Moreover, the EPA’s decision to allow Billiton to characterize the Channel Islands as an attainment area in order to mislead the public into thinking that the air quality of the Channel Islands is clean – when really it’s not – appears to be an attempt to strengthen the EPA’s decision to exempt Cabrillo’s emissions from New Source Review by attributing it to sources (a lighthouse and a ranger dwelling!) regulated on Anacapa Island.

## ***The Revised DEIR arbitrarily separates Cabrillo Port emissions and LNG carrier vessel emissions***

One reason that Billiton wants to put Cabrillo Port in Federal waters is that the EPA, which is supposed to protect and preserve the environment, will allow it to emit a whopping *250 tons per year of any of the 28 criteria pollutants* (things like hydrocarbons, carbon monoxide and oxides of nitrogen). Yet, despite this generous gift to Billiton at the expense of our county, the Revised DEIR deftly understates the proposed emissions of the FSRU and the LNG carrier vessels by treating their emissions *separately*, even though we all know that the emissions of the LNG carrier vessels and the FSRU are effectively one and the same thing because the vessels will in fact be docked, for two or three days straight, to the FSRU while they pump their LNG, engines running all the while, onto the FSRU. And what are those proposed emissions? Well, if you buy into the false logic of the Revised DEIR, you won’t find any proposed emission over the 250 ton/year level allowed in Federal waters. But when you *add the proposed annual emissions of the LNG carrier vessels to the FSRU*, a darker picture emerges, to wit:

277 tons/year of CO  
231.2 tons/year of NOx  
47.7 tons/year of ROCs

In other words, the Revised DEIR intentionally understates the projected annual emissions of the FSRU and the carrier vessels by arbitrarily and capriciously separating them as if they were two separate facilities. Separating these emissions is disingenuous, it’s dangerous and it’s an insult to the intelligence of our community. Let’s be frank: The emissions from this facility will be significant. In fact, they will be gross! Ventura and

Los Angeles Counties are non-attainment areas for NOx. L.A. County is a non-attainment area for *everything*! The Ventura County APCD and the South Coast Air Quality Management District are desperately trying to improve the quality of our air. Here in Ventura County, we should have achieved compliance in 1990! Yet 16 years later we're still struggling to do so. Yet the projected 231.2 tons/year of NOx for Cabrillo Port exceeds by a country mile the NOx emissions of Ventura County's biggest current NOx emitter, Procter and Gamble, which emits a paltry by comparison 176 tons/year.

### ***The health effects of Cabrillo Port's NOx emissions are serious and unavoidable***

Mr. Lapka, the Los Padres Chapter of the Sierra Club is seriously concerned about the EPA's decision to even consider granting an air quality permit for the BHP Billiton project. If granted, this permit will allow Cabrillo Port to spew 277 tons per year (tons/year) of carbon monoxide (CO), 231.2 tons/year of oxides of nitrogen (NOx) and 47.7 tons/year of reactive organic compounds (ROCs) into the air. Where did I get these numbers? I added up the projected annual emissions of the carrier vessels, the tugboats and the Floating Storage and Regasification (FSRU), all of which were included in the Draft Environmental Impact Report (DEIR) for Cabrillo Port. To put these numbers into perspective, allow me to compare them with some of our current leading polluters in Ventura County.

### **Carbon monoxide and reactive organic compounds**

The projected CO and ROC emissions of Cabrillo Port would put it at fourth (out of 25) among CO emitters and ninth (out of 25) among ROC emitters. Not the worst, but not good. However, when you look at the estimated NOx emissions of Cabrillo, a darker picture emerges.

### **Oxides of nitrogen**

Procter and Gamble, which is currently our largest NOx emitter, belts out 176 tons/year of NOx. Cabrillo, at 231.2 tons/year, *would take over the number one slot in that category*. Unfortunately for us, we're already a non-attainment area for both State and Federal standards for NOx, which as you know, or should know, "*can be transported long distances and cause problems far from the original emissions source*" [italics mine]. This is a direct quote from the EPA's *Facts about NOx Emissions*, which is the opening section of the EPA's *The Regional Transport of Ozone* website! In other words, the EPA has already acknowledged the serious nature of NOx. And just what exactly does the EPA say about NOx. Let's look at some of the more egregious effects of NOx (these are all excerpted verbatim from the same website cited above):

- NOx contributes to the formation of ground-level ozone.
- Ground level ozone occurs at high levels during the summertime.
- Ozone can cause serious respiratory problems, particularly in sensitive populations, such as children and people with chronic lung conditions.
- People who work or exercise outside for long periods during the day are also susceptible to respiratory problems from ozone.

- Ozone damages vegetation and reduces crop yields.
- NOx and sulfur dioxide react with other substances to form acids which [sic] fall to the earth as rain, snow, fog or dry particles.
- *Acids can be carried by the wind for hundreds of miles* [italics mine].
- Acid rain damages forests, causes deterioration of cars, buildings and historical monuments.
- Acid rain causes lakes and streams to become acidic and unsuitable for many fish.
- NOx reacts with ammonia, moisture and other compounds to form nitric acid vapors and nitrate particles.
- Human health concerns include effects on breathing, damage to lung tissue and premature death.
- Small particles penetrate deeply into sensitive parts of the lungs and cause or worsen respiratory disease, such as emphysema and bronchitis, and aggravate heart disease.

### ***The Draft DEIR doesn't acknowledge the prevailing onshore wind flow patterns of the California Bight***

And yet, despite the well known health hazards of NOx, neither the Revised DEIR nor the EPA has ever acknowledged that *the emissions from this project will flow onshore*, and because of this serious omission, it doesn't apply onshore thresholds of significance. By analyzing only those emissions within 25 nautical miles of the coastline, the Revised DEIR failed to truthfully disclose the likely air quality impacts to Ventura County, which is not now, and never has been, in compliance with State and Federal standards for NOx, which is a precursor of ozone and photochemical smog.

We are particularly concerned about the Class I (significant and unavoidable) air quality impacts that will result from this project if approved. These serious impacts were either ignored or omitted by the Revised DEIR, which instead relied on the EPA's inexcusable decision *to change the rules that apply to the project in order to avoid responsibility for providing suitable mitigation and offsets*.

Into what kind of environment would Cabrillo Port be spewing these gross criteria pollutants? "The air over Ventura County often exhibits weak vertical and horizontal dispersion characteristics, which limit the dispersion of emissions and cause increased ambient air pollutant levels. Persistent temperature inversions, i.e., temperature increases as height increases, act as a 'ceiling' that prevents pollutants from rising and dispersing. Mountain ranges act as 'walls' that inhibit horizontal dispersion of air pollutants. The diurnal land/sea breeze pattern common to Ventura County transports air pollutants toward the ocean during the early morning by the land breeze and toward land during the afternoon by the sea breeze. This creates a 'sloshing' effect, causing pollutants to remain in the area for several days. *Residual emissions from previous days accumulate and chemically react with new emissions in the presence of sunlight, thereby increasing ambient air pollutant levels*" (pp. 4.6-3 & 4.6-4 of the Revised DEIR). This phenomenon, which is sometimes referred to as "The Catalina Eddy" by people who spend a lot of time

on the water, is well known to all Southern California boaters, sailors, fishermen and surfers.

Yet, even though the Draft DEIR described these prevailing weather patterns in Ventura County and the South Coast Air Basin, it omitted any discussion of the general onshore wind flow patterns that characterize the ocean off this part of Southern California. Because of these patterns, offshore emissions always end up onshore. The emissions produced by Cabrillo Port, the LNG carrier vessels and any support vessels are no exception. They too will end up in Ventura County and the South Coast Air Basin. Both areas are already, and always have been, non-attainment areas for NO<sub>x</sub>, a precursor of ozone and photochemical smog. Significantly, the proposed project will produce an enormous amount of NO<sub>x</sub> and reactive organic compounds (ROCs), the other ingredient needed to make smog. Numerous meteorological studies have confirmed this phenomenon, yet the Draft DEIR failed to mention it anywhere. One of the more recent papers documenting this phenomenon, from Ms. Camille Sears, who was commissioned by the Environmental Defense Center (EDC) of Santa Barbara, should already be in your possession.

In her report Ms. Sears asserted that “*offshore emissions in the Project area are part of the onshore ozone nonattainment problem*” [italics mine]. Sears’ study offers credible evidence that Cabrillo Port’s emissions will end up onshore and further degrade our air quality both here in Ventura County as well as Los Angeles County. In fact, Ms. Sears opined that “*emissions from the Project will blow onshore roughly 80 percent of the time*” [italics mine].

Ms. Sears’ findings are underscored by the California Air Resources Board (CARB), which has found that the prevailing wind direction blows onshore “11 months of the year in Oxnard, nine months of the year at Pt. Mugu Naval Air Station and 11 months of the year in Santa Monica.” In short, the emissions produced by Cabrillo Port will end up in Ventura County and in Los Angeles County. Unfortunately, these two counties can ill afford to deal with these emissions because both counties are already in nonattainment for NO<sub>x</sub>.

And not all pollution will foul the air over Ventura County. A lot of it, perhaps most of it, will end up over Los Angeles. “The South Coast Air Basin is surrounded by mountains on three sides and the Pacific Ocean on the remaining side. The mountains often serve as a barrier when regional scale winds are weak. Under these conditions, air pollutants are not transported out of the basin, resulting in the build-up of pollutant concentrations. Prevailing wind patterns off the ocean carry pollutants eastward across the basin, *enabling continual photochemical reactions to occur as new emissions are added to the existing pollutant concentrations*. Intense sunlight provides the ultraviolet light necessary to fuel the photochemical reactions that produce ozone. Metropolitan Los Angeles has a low average wind speed. Mild sea breezes slowly carry pollutants inland. In the summer, temperature inversions are stronger than in winter and prevent ozone and other pollutants from escaping upward and dispersing.” (p. 4.6-4, lines 12-25 of the Revised DEIR).

## ***Cabrillo Port's greenhouse gas emissions will contribute to global warming***

Finally, I'd like to address the issue of global warming. The Los Padres Chapter of the Sierra Club is disappointed that neither the revised DEIR nor the EPA acknowledges the greenhouse gas emissions that Cabrillo Port will surely produce. The estimated carbon dioxide (CO<sub>2</sub>) emissions of the Floating Storage and Regasification Unit (FSRU) alone are significant. But when you factor in the CO<sub>2</sub> emissions of the carrier vessels themselves, the numbers are staggering! Even though, according to the Revised DEIR, the carrier vessels will run on natural gas, the CO<sub>2</sub> emissions produced by burning natural gas are significant. The Revised DEIR provides an estimate of these emissions *within 25 nautical miles of the coast*, but it neglects to mention the greenhouse gas emissions of these vessels as they make their 12,000 mile trip across the Pacific Ocean, and back. At 2.5 ships a week, that's a significant omission that, had it been honestly and accurately analyzed, would have shown the true impact of this project on global warming.

In summary, we are disappointed by the unspoken but obvious subtext that permeates the air quality section of the Revised DEIR: underestimated air emissions, little useful impact analysis and few mitigation measures, all of which are legally mandated, to the maximum feasible extent, by the California Environmental Quality Act (CEQA) and by the National Environmental Policy Act (NEPA).

"The gases most responsible for global warming are carbon dioxide (CO<sub>2</sub>) and methane. It is becoming more widely accepted that *continued increases in greenhouse gases will contribute to global warming*" (p. 4.6-2, lines 20-22 of the Revised DEIR). The greenhouse gas emissions from the Cabrillo project will be caused primarily by CO<sub>2</sub>, which is always produced as a natural byproduct of combustion. CO<sub>2</sub> is also produced by the power plants for the LNG carrier vessels and the support vessels, and by operation of the liquefaction plant on the FSRU. What the Revised DEIR fails to mention is that methane is also a greenhouse gas, which is *23 times more effective at retaining heat than CO<sub>2</sub>*. The LNG that Billiton proposes to bring here is extremely high in methane.

Moreover, the Revised DEIR's estimate of the greenhouse gas emissions that will be produced by Cabrillo Port, while it paints a fairly rosy picture, is inaccurate in the extreme. I refer you to *LNG Supply-Chain Emissions: Australia to Offshore Ventura* by Mr. Rick Heede, who was commissioned by the EDC to do a comprehensive study on the estimated total project greenhouse gas emissions that will be produced by the *full supply chain*. I believe that you also have this document in your possession.

Mr. Heede's report looks at the estimated greenhouse gas emissions from natural gas production at the Scarborough offshore gas field, transportation of the natural gas by sub sea pipeline to the proposed LNG plant at Onslow, gas processing and liquefaction at Onslow, shipment of the LNG 9,000 miles from Australia to California, regasification at the FSRU, delivery into the SoCalGas infrastructure, and consumption by end users. And Mr. Heede's conclusion? When all of these sources are factored into the picture, the



supply chain greenhouse gas emissions for the Cabrillo project will be between 23,564, 431 and 26,728,883 tons per year. This is a *conservative* estimate that assumes state-of-the-art technology for the processing and liquefaction plant in Onslow and excludes some smaller factors such as travel by BHP crews, etc.

Mr. Rios, if the EPA issues an air quality permit to BHP Billiton, it will undermine the progress made by the Ventura County Air Pollution Control District and the South Coast Air Quality Management District for years and years to come. Please do not issue an air quality permit for this project. Thank you for your consideration in this matter.

Sincerely,

Mike Stubblefield  
Air Quality Chair  
Los Padres Chapter Executive Committee  
Sierra Club